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ABSTRACT

This report synthesizes a number of policy and implementation issues raised during a forum on the development of partnerships between community and migrant health centers (C/MHCs) and health professions education programs to support community-based primary care training. Chapter 1 serves as an introduction, while chapter 2 provides an overview of relevant issues and information regarding the shortage of primary care providers, past and current initiatives to enhance the supply and distribution of such providers, the progress to date, and the obstacles to change. Chapter 3 discusses the role of community-based training and its importance relative to primary care access and delivery issues. Chapter 4 explores the factors that must be considered to effectively develop and implement partnerships between C/MHCs and health professions education programs. Chapter 5 examines the role of other partners, such as nonphysician health professionals, students, and area health education centers, in community-based training. Chapter 6 profiles four different types of health professions education linkage programs. Chapter 7 concludes the report by arguing that the benefits generated by establishing linkages far outweigh the disadvantages, and by making specific recommendations to facilitate such linkages. (Contains 17 references.) (MDM)

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HEALTH PROFESSIONS EDUCATION LINKAGES: COMMUNITY-BASED PRIMARY CARE TRAINING

State
Policy
Reports

Health
Policy
Studies

by Timothy Curley, Tracey M. Orloff, and Barbara Tymann

Health Policy Studies
Center for Policy Research
National Governors' Association

Since their initial meeting in 1908 to discuss interstate water problems, the Governors have worked through the National Governors' Association to deal collectively with issues of public policy and governance. The association's ongoing mission is to support the work of the Governors by providing a bipartisan forum to help shape and implement national policy and to solve state problems.

The members of the National Governors' Association are the Governors of the fifty states, the territories of American Samoa, Guam, and the Virgin Islands, and the commonwealths of the Northern Mariana Islands and Puerto Rico. The association has a nine-member Executive Committee, a Task Force on State Management, and three standing committees—on Economic Development and Commerce, Human Resources, and Natural Resources. Through NGA's committees, the Governors examine and develop policy and address key state and national issues. Special task forces often are created to focus gubernatorial attention on federal legislation or on state-level issues.

The association works closely with the administration and Congress on state-federal policy issues through its offices in the Hall of the States in Washington, D.C. The association serves as a vehicle for sharing knowledge of innovative programs among the states and provides technical assistance and consultant services to Governors on a wide range of management and policy issues.

The Center for Policy Research is the research and development arm of NGA. The center is a vehicle for sharing knowledge about innovative state activities, exploring the impact of federal initiatives on state government, and providing technical assistance to states. The center works in a number of policy fields, including agriculture and rural development, economic development, education, energy and environment, health, information management, social services, trade, training and employment, and transportation. The priorities for the association's research are set by the Governors.

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Executive Summary

With the increasing state and national momentum for health care reform, it is imperative that the reach and delivery of primary care, particularly for medically underserved populations, be improved. For states, in particular, the need to improve access to such services has never been more acute. States traditionally have borne much of the burden of ensuring access to health care services for the medically indigent. Given the recent increases in the number of uninsured, states face tremendous pressure to develop delivery systems that provide access to a full range of health care services for all individuals.

Intrinsically linked to this effort will be the recruitment and retention of the nation's health care providers in medically underserved areas. Universal coverage alone will not ensure the availability of services and providers in the neediest locations. Likewise, simply increasing the supply of primary care providers will not ensure that an adequate number of such providers will be attracted to the nation's medically underserved areas.

As the need to increase access to health care services in underserved areas becomes more apparent, a variety of public and private organizations have joined forces to meet this challenge. On the community level, organizations that several years ago had very little interest or incentive to work together have formed partnerships to improve access to primary care services in underserved areas. Hospitals, medical schools, community providers, and local government agencies are working together to create a health care delivery system that is responsive to the health care needs of their community. Within this cooperative environment, organizations are discovering ways to better coordinate and share health care resources to ensure that all individuals have access to health care delivered in appropriate settings.

One approach that has proven successful is to establish service education linkages between community and migrant health centers and academic health professions training and residency programs. Such collaborations have provided an opportunity for these providers to forge relationships outside their traditional operating environments and to create truly integrated partnerships for the delivery of health care. Even more important, by providing health professions students with early and continuous exposure to primary care in a community-based setting, service education linkages have proven successful in recruiting and, eventually, in retaining providers in medically underserved areas. Several states are beginning to recognize the value of these initiatives and have begun concerted efforts to coordinate the activities of these community-based linkages to address statewide health care delivery and provider supply issues.

Yet a number of barriers make it difficult to develop service education linkages. One barrier is the lack of financial support. Currently, these linkages are financed through a patchwork of different funding sources (e.g., foundation funds; limited graduate medical education (GME) funds; state or federal funds; donations from academic institutions, hospitals, or community-based organizations; and/or in-kind support). Although these funding sources have proven effective in the short term, they

do not offer the guarantee of a stable, long-term, financial commitment. Other barriers include the health center's increased administrative costs generated by the linkage and misperceptions on behalf of all participants regarding the possible consequences of the linkage.

Possible actions to increase the sustainability of these linkages include the following.

- Providing community-based entities with designated dollars specifically earmarked for primary care training purposes. Academic institutions and hospitals would then need to negotiate directly with community-based facilities to develop primary care training programs.
- Requiring community-based training for all students and/or residents going into primary care and/or paying for their training with public funds.
- Forming consortia among academic institutions, hospitals, and community-based organizations/agencies.
- Equalizing the ratio of primary care generalists to specialty positions in all approved medical training programs and specifying targets by geographic area.
- Evening up the per residency amounts paid (e.g., through GME funds) across facilities to include reimbursement for community-based sites.
- Redirecting Medicare's per resident payments so that a portion of these funds can be provided directly to community-based ambulatory care settings.
- Fully funding the National Health Service Corps so that physicians, nurses, dentists, and other health professionals can be placed where they are needed the most, primarily in medically underserved communities.

Service education linkages involving community and migrant health centers and academic health professions training and residency programs can play a major role in states' efforts to expand access to health care services for the medically underserved. Through careful planning and the development of sound management and financial strategies, linkage programs today are generating more primary care providers who are willing to provide needed health care services in many rural and urban underserved areas. States such as Virginia and West Virginia have recognized this potential and have made linkage arrangements an integral part of their state health care reform efforts.

1.

Introduction

Improving access to primary care and enhancing the management and financing strategies for delivering primary care services are integral to the larger movement of health care reform. Critical to the success of health care reform at all levels of government is building the system's capacity to provide access to high-quality, comprehensive, case managed care for medically underserved, indigent populations.

Intrinsically linked to this effort will be the recruitment and retention of the nation's health care providers in medically underserved areas. Universal coverage alone will not ensure the availability of services and providers in the neediest locations. Likewise, simply increasing the supply of providers or even the supply of primary care providers will not ensure that an adequate number of such providers will be attracted to the nation's medically underserved areas.

One approach that has proven successful in addressing this system capacity issue is the training and education of medical students and residents and other health professionals in community-based settings. By moving the training site away from the medical center and into the community, health professions education programs encourage their trainees to practice in areas that most need their services.

Community-based training opportunities can be established by a number of providers, including area health education centers, state and local health departments, rural clinics, nursing homes, homeless programs, private local providers who are in solo practice or in networks (e.g., health maintenance organizations and accountable health plans), and community and migrant health centers (C/MHCs). These different providers often work together on community-based training initiatives in order to maximize access to health care in underserved areas. This report focuses specifically on the role C/MHCs play in expanding access to primary health care services by forming linkages with academic health professions and residency programs. C/MHCs are highlighted because few linkage arrangements with other types of providers have been established and because C/MHCs have a long track record of providing community-based training.

As a setting for community-based training, C/MHCs offer a number of mutual benefits to the different parties involved. For students and residents, C/MHCs typically provide a diverse patient mix for primary care education and research, exposure to well-run community-based practices, and settings where continuity of care contributes to a richer learning experience. The benefits to C/MHCs of such an affiliation include the enhanced ability of the centers to recruit and retain health care providers from area education programs; the creativity and professional growth fostered by interactions with colleagues, students, and residents; and the recognition of excellence associated with an

educational institution affiliation. The benefits to an affiliated hospital and/or academic institution include increased quality of care, community-based research possibilities, increased access to a rich source of health data, and overall expansion of the primary care services being provided.

Despite these advantages, linkages between C/MHCs and health professions education programs remain difficult to establish. Significant needs assessment and planning, as well as financial analyses by both the educational institution and community-based provider, often are required to determine the feasibility of an affiliation. Misperceptions—on the part of one or more of the potential partners—may exist regarding the barriers and the benefits of establishing these affiliations. In addition, maintaining these linkages may require ongoing administrative and financial support. Other potential problems that arise in developing these linkages include the availability of adequate space for training purposes at the health center and a potential decrease in productivity by health center providers as a result of their teaching responsibilities.

This publication synthesizes a number of policy and implementation issues raised during a forum convened by the National Governors' Association under a cooperative agreement with the Bureau of Primary Health Care, U.S. Public Health Service. The forum, which took place October 14, 1993, focused on developing partnerships between C/MHCs and health professions education programs to support community-based primary care training.

Chapter 2 provides an overview of relevant issues and information regarding the shortage of primary care providers, past and current initiatives to enhance the supply and distribution of such providers, the progress to date, and the obstacles to change. The role of community-based training and its importance relative to primary care access and delivery issues are discussed in Chapter 3. Chapter 4 explores the factors that must be considered to effectively develop and implement partnerships between C/MHCs and health professions education programs, including reaching consensus among the partners, administering and financing the linkage, and tracking its outcomes. The role of other partners in community-based training is discussed in Chapter 5, including nonphysician health professionals, students, and area health education centers. Chapter 6 profiles four different types of health professions education linkage programs. They are the Montefiore Hospital Project in the Bronx, New York; the Greater Lawrence Family Health Center in Lawrence, Massachusetts; the Lincoln County Primary Care Center in Hamlin, West Virginia; and the Sequoia Health Foundation in Fresno, California. Located in very different areas, each of these programs has developed a unique way of fostering linkages. Their experiences can lend insight and provide guidance to other organizations interested in establishing health professions education linkages.

The report concludes that the benefits generated by establishing linkages far outweigh the disadvantages. Now is the time to take advantage of the opportunity to create coalitions, alliances, and linkages to extend access to primary care. For the health of the nation, creating service education linkages between community-based providers and health professions education programs must continue with or without health care reform.

2.

A Delivery System in Crisis

As health care reform activity increases at both the state and national levels, considerable attention is being devoted to how health care is being delivered and how the lack of primary care providers is impeding access to services for underserved populations and communities. For a variety of reasons, health professions education programs are not graduating a mix of providers capable of meeting the nation's health care delivery needs. To develop viable solutions to the access problem, it is important to review some of the major deficits of the delivery system, outline past and current efforts to address the problem, and identify obstacles that have thwarted previous efforts at serious reform.

Deficits of the Current Delivery System

The supply of primary care providers has not kept pace with the nation's health care delivery needs, and this shortage is contributing to serious access problems in many areas. The Council on Graduate Medical Education (COGME) was created by Congress in 1986 to advise the U.S. Department of Health and Human Services (HHS) on physician workforce needs. A report published by COGME concludes, "There are too few generalists (i.e., family physicians, general internists, and general pediatricians) and too many nonprimary care specialists and subspecialists."¹ The report also notes that access to health care services in rural and inner-city areas continues to deteriorate even as the total number of physicians increases substantially.² In a recent HHS study on states' assessments of their primary care needs, forty-nine states and territories reported shortages of primary care providers and forty-five noted shortages of such providers in rural areas.³

Between 1978 and 1988, total physician supply increased by 30 percent. However, this statistic masks significant variability among medical specialties. For example, the rate of growth for physicians in diagnostic radiology, gastroenterology, and pulmonary diseases was more than 60 percent during this period. The rate of growth for physicians in family medicine, internal medicine, and pediatrics was 12 percent, 37 percent, and 29 percent, respectively. In 1970 the number of surgical specialties per 100,000 people was 41.1, while the number of general/family practice physicians per 100,000 people was 27.7. In 1990 the number of surgical specialties per 100,000 people was 55.0, while the number of general/family practice physicians was 28.3 per 100,000 people. During these twenty years, the number of surgical specialists per 100,000 increased 33 percent, while the number of general/family practice physicians per 100,000 increased only 2 percent.⁴

Recent surveys of medical school students affirm a declining interest in primary care careers. According to statistics compiled by the Association of American Medical Colleges, 38.8 percent of medical school graduates in 1981 planned to become board-certified primary care specialists, compared with 25.4 percent in 1989. Between 1981 and 1989, the percentage of medical school graduates planning to become board-certified in general internal medicine declined from 12.7 percent to 5.3 percent; family practice declined from 17.3 percent to 13.7 percent and general pediatrics fell from 8.8 percent to 6.4 percent.⁵

The focus on provider supply issues has intensified recently as it becomes increasingly clear that the health care delivery and financing system is failing to ensure access to basic services for more and more Americans. With health care consuming more than 14 percent of the gross domestic product and with about 15 percent of the population uninsured and a still larger percentage underinsured, almost everyone agrees that the United States simply cannot afford to maintain the current system. The policy debate on health care reform speaks to the need to meet this challenge through a renewed emphasis on primary care. However, the challenge is not simply to make the commitment to primary care, but to develop and implement policies and programs capable of realizing that commitment.

Initiatives to Enhance the Supply and Distribution of Primary Care Providers

For many years, various academic, professional, and government entities have recognized the need to increase the supply and improve the distribution of physicians and, in particular, the supply and distribution of primary care providers. A number of federal, state, and private initiatives have been launched to address provider shortages.

Federal Initiatives. Initial federal efforts were targeted to increasing the supply of all physicians rather than primary care physicians. It was assumed that an increase in the total physician supply would produce a commensurate increase in the supply of different types of providers, including primary care providers. Toward this end, in 1963 Congress enacted the Health Professions Educational Assistance Act, which established the first federal program designed to increase the supply of physicians. The act provided financial assistance to teaching medical schools for the construction of facilities and loans to medical students for the pursuit of their degree.

During the 1970s, Congress enacted several pieces of legislation designed specifically to increase the supply of primary care providers, particularly in rural and other underserved areas. In 1970 it created the National Health Service Corps (NHSC) to assist in ensuring an adequate supply of primary care providers in medically underserved areas. NHSC awarded scholarships to students in exchange for service in an urban or rural underserved area. One year of service was required for each year of tuition support. In 1971 Congress amended Title VII of the Public Health Services Act by enacting the Comprehensive Health Manpower Training Act. The legislation charged the federal government with "increasing the supply and improving the distribution of critically needed practitioners of the professions and toward maintaining the viability and stability of the institutions essential for their preparation."⁶ The act

specifically earmarked \$100 million over three years to training programs in family medicine.

Recognizing that the location of medical training affects the site of practice, in 1972 Congress established the Area Health Education Center (AHEC) Program to encourage medical residents to practice in rural and underserved areas. The program provides federal startup funds to states to establish medical student training sites in rural areas by linking rural practice sites with universities and other medical centers.⁷

Established under Sections 329 and 330 of the Public Health Services Act, community and migrant health centers also have played a major role in both federal and state efforts to improve access to primary and preventive care services in underserved areas. The centers often are the only health care providers in a community and play a crucial role in providing access to needed services for low-income and underserved populations.

Another federal initiative designed to increase the supply of primary care providers is the Resource Based Relative Value Scale (RBRVS) for physician reimbursement under the Medicare program. Enacted in 1989 and effective in 1992, the RBRVS fee schedule assigns a value to each service that reflects, relative to other services, the work and other resources needed to provide the service. Values are adjusted for geographic differences that affect the relative costs of inputs, such as staff salaries and rental amounts for office space. The adjusted values for each service are converted to dollar payments by multiplying by a conversion factor. The intent in part was to introduce greater parity within the Medicare physician payment schedule by assigning a greater value to primary care services and a lower value to some specialty services, thereby increasing reimbursement rates for primary care and lowering them for specialty care. Ideally, this adjustment would provide a financial incentive for medical students to choose a career in primary care and would minimize the incentive to choose a career in specialty care.

State Initiatives. States have been major players in efforts to increase the supply of primary care providers in underserved areas. Their authorities related to physician credentialing and medical school accreditation, health planning and resource allocation, and insurance regulation have given them some ability to improve access to health care services. However, because of a number of obstacles at both the state and federal levels, states are limited in their capacity to significantly reconfigure the supply and distribution of medical professionals.

A report published by the National Governors' Association in 1990 discusses the serious provider shortages plaguing rural areas and documents a number of state initiatives designed to address these shortages.⁸ While urban areas have 1.5 physicians per 1,000 residents, rural areas have only .67 physicians per 1,000 residents. The expected retirement within the next several years of one-quarter of all rural physicians threatens to create an even more dramatic shortage in these areas. The problem has been compounded by the closure of hundreds of rural health care facilities. Between 1973 and 1988, more than 700 rural hospitals closed. Although in some cases this has more efficiently targeted health appropriations to services other than those provided by hospitals, in other cases the hospital closures have left many communities without any access to health care.

By 1990 twenty-two states had established offices of rural health and thirty-four states had enacted at least one program to improve access and quality of health care for their rural residents. State initiatives include educational assistance programs, grants and loans to subsidize overhead and other startup costs, programs to assist in the payment of malpractice premiums, and grants to assist rural hospitals.

In 1992 Delaware, Florida, Hawaii, Minnesota, Ohio, Pennsylvania, South Dakota, Vermont, and Virginia enacted legislation designed to increase the supply of primary care providers in rural areas. For example, Florida created a Health Services Corp that provides scholarship and loan repayment assistance to health professionals who serve in rural and underserved areas. A change to Minnesota's loan forgiveness program enables physicians and mid-level practitioners to be placed in rural areas more quickly, and an initiative at the University of Minnesota allows the medical school to increase the number of graduates choosing primary care by a minimum of 20 percent over eight years. Ohio created a Physician Loan Repayment Program that provides financial assistance to primary care providers who agree to practice in underserved areas.⁹

In 1993 several states enacted legislation designed to increase the supply of providers. Minnesota's cost containment reform package enacted in May includes a grant program for colleges and schools of nursing operating nurse practitioner programs to establish rural clinical sites for nurse practitioner education. Missouri enacted legislation in July that allows registered nurses to administer and dispense drugs and provide other medical treatment with physician consent.

Foundations. Foundations have been very active in supporting programs to increase the supply of primary care providers in underserved areas. In 1991 the W.K. Kellogg Foundation funded seven partnerships between communities and health professions education institutions to demonstrate how medicine, nursing, and health professions education students can be educated cost-effectively in academic, community health settings. The foundation is now supporting partnerships in Georgia, Hawaii, Massachusetts, Michigan, Tennessee, Texas, and West Virginia.

In 1989 the Pew Charitable Trusts established the Pew Health Professions Commission to assist health professions education institutions in meeting the changing health care needs of Americans and establish policies to help support those needs. The commission has published several reports. Among them are *Healthy America: Practitioners for 2005*, which analyzes many of the trends shaping the future of health care, and *Health Professions Education for the Future: Schools in Service to the Nation*, which proposes strategies for health professional schools to use to meet the changing provider supply and health care needs of the nation.

The Robert Wood Johnson (RWJ) Foundation is funding four projects that support physician workforce reform. Under its Generalist Physician Initiative, RWJ awarded eighteen development grants to schools of medicine to increase the supply of generalist physicians. The medical schools are working with a number of partners, including health maintenance organizations, hospitals, and community health centers, to change admissions policies, modify the content and structure of undergraduate medical education and generalist residency programs, and improve the policy and practice environment for generalist physicians. The development grants were awarded in Oc-

tober 1992; in June 1994, twelve of the eighteen schools will be awarded six-year implementation grants.

Under its Practice Sites Initiative, RWJ awarded development grants to fifteen states to improve the distribution of primary care providers, both physicians and mid-level practitioners, in underserved inner-city and rural areas. The states are being challenged to work with providers, health professional schools, and communities to improve recruitment and retention efforts, needs assessment capacity, and the policy and financial environment for primary care providers. The grants were awarded in May 1993.

Two other initiatives funded by RWJ are the General Physician Faculty Scholarship Program and the Generalist Provider Research Initiative. The scholarship program supports the career development of fifteen outstanding young faculty in academic departments and divisions of family practice, general internal medicine, and general pediatrics. The grants were awarded in August 1993. The research initiative, launched in April 1993, will support research projects to identify, analyze, and assess the opportunities and constraints that determine the current mix and distribution of generalists and specialists.

The Robert Wood Johnson Foundation and the Pew Charitable Trusts are jointly sponsoring a project known as "Health of the Public." The project supports the development of partnerships between academic health centers and their surrounding communities to ensure that community health care needs are recognized and addressed. This initiative is broader than the other initiatives, which focus specifically on provider supply. Yet all of the initiatives share the goal of increasing access to needed health care services, especially in underserved areas.

Progress to Date

Some of the provider supply initiatives have made noteworthy progress in reducing health care professional shortages in underserved areas. Since 1987 the NHSC's State Loan Repayment Program has helped 27 states recruit and retain 387 primary health care providers in underserved areas, including 52 percent in rural areas. Of the 387, 16 percent are mid-level practitioners, including physician assistants, certified nurse midwives, and nurse practitioners.

Area health education centers have supported state efforts to address problems of provider supply. Thirty-six states have AHEC programs. Each year these programs support the training of 500,000 students, residents, and practitioners in primary care medicine, allied health, dentistry, nursing, pharmacy, and public health in underserved areas. The centers also have been instrumental in recruiting minorities to health professional schools and in helping states obtain private foundation funds for primary care training. AHECs play major roles in Robert Wood Johnson Foundation grants to Kentucky, Maine, Massachusetts, Nevada, and Virginia for community public health and primary care initiatives.

Unfortunately, these and other initiatives have not been enough to ensure an adequate supply of primary care providers in underserved areas. To understand the

prevalence of shortages, it is important to consider some of the major obstacles impeding significant provider supply reform.

Obstacles to Change

Incentives firmly entrenched within the current system of graduate medical education promote the education and training of medical professionals in hospital-based settings that emphasize specialty-based care. This environment significantly biases residents' choices on the specialty and the location of their practice.

Graduate Medical Education. To fully understand provider supply issues, it is necessary to explore the system of graduate medical education in the United States. There are at least six different sources of funding for GME, including the Medicare and Medicaid programs, the U.S. Departments of Defense and Veterans Affairs, universities and practice plans, state and local governments, and other third-party payers. In 1991 more than \$8 billion was spent on graduate medical education.¹⁰ Of that amount, about \$4.2 billion was financed by Medicare, making this program the single largest contributor to GME. Estimated Medicare GME payments in 1992 were \$5.2 billion.

Medicare payments for GME are categorized into the two broad categories of direct and indirect payments. Direct GME payments include reimbursement for salaries and fringe benefits of the teaching hospital's interns and residents, the portion of faculty salaries devoted to teaching, and the overhead allocated by the hospital for teaching. Indirect GME payments include "the elements of the cost structure of teaching hospitals which could not be accounted for directly, but which are part of operating a teaching facility beyond the strict provision of patient care."¹¹ Examples of indirect GME payments include adjustments for the severity of illness among patients requiring specialized services, the higher intensity of care provided by teaching hospitals, and the higher level of indigent care provided by these teaching hospitals.¹² In 1991 Medicare paid \$1.52 billion in direct GME costs and \$2.70 billion in indirect GME costs.

A number of features within the current system of Medicare GME contribute significantly to shortages of primary care providers, especially in underserved areas. Medicare does not take into account provider staffing needs when providing reimbursement for medical training. It provides reimbursement for the training expenses of specialty residencies even if there is an oversupply of such specialists. Also, Medicare determines its direct GME payments by calculating the average cost incurred by the hospital for all of its residents. There is no explicit recognition of primary care residency training, thus frustrating efforts to institutionalize primary care residencies in the hospital's training program. In factoring the cost per resident, Medicare establishes a base year from which all residency training costs are determined. Any additions to hospital services beyond the base will not be reflected in the calculation. If the hospital builds a primary care center, the costs of training incurred by that center will not be reflected in the Medicare direct GME payments.

Moreover, Medicare indirect GME payments do not reimburse for training in an outpatient setting. This represents a clear incentive for residency programs to conduct most of their graduate medical education in the hospital in order to maximize GME reimbursement. Because a large percentage of primary care treatment is now provided in an outpatient setting, opportunities for primary care residency training are further

minimized, while opportunities for hospital-based specialty training are further expanded. The result is that residents have little exposure to community-based primary care, and they therefore develop no affinity for such work and no appreciation of the significant need for such care.

Other Factors. The relatively low reimbursement rates provided by third-party payers for outpatient services encourage hospitals to provide as much patient care as possible in the hospital in order to maximize revenues.¹³ Medical schools also have a strong incentive to promote the provision of specialty care because almost 43 percent of their total funding comes from billing for patient care services rendered under faculty supervision. Specialty care generates a higher payment rate, which encourages schools to support traditional, specialty-oriented education over primary care.¹⁴

The disparity in reimbursement rates between specialty providers and primary care providers also serves as a major incentive for medical school residents to choose a specialty career. A recent survey by the William M. Mercer Company of salaries for staff physicians employed by a hospital, health maintenance organization, or group practice in 1992 found that the highest paid physicians were reproductive endocrinologists; their annual median salary was \$259,750 (see Table 1 for the median salary of other physicians). Such anticipated remuneration provides a clear financial incentive for graduate medical students and residents to select a career in specialty medicine rather than primary care.

Table 1
Annual Median Salary of Staff Physicians in 1992

<i>Type of Physician</i>	<i>Annual Median Salary</i>
Reproductive endocrinologist	\$259,750
Cardiothoracic surgeon	259,000
Radiologist	183,150
Anesthesiologist	179,900
Otolaryngologist	178,700
Obstetrician/gynecologist	166,100
General surgeon	145,000
Pathologist	144,550
Emergency physician	121,000
Family practitioner	100,600
Internist	100,000
Pediatrician	98,037

SOURCE: William M. Mercer Co., 1992.

3.

The Role of Community-Based Training

In the last several years, a number of entities, including foundations, academic health centers, and state and federal agencies, have convened commissions to examine the factors contributing to access problems and prepare reports detailing possible solutions to those problems. Studies funded by the W.K. Kellogg Foundation, the Physician Payment Review Commission, the Council on Graduate Medical Education, and the Pew Health Professions Commission all recognize the need to increase the availability of health care professionals practicing in underserved areas.¹⁵ Proposed strategies to address this need include establishing a congressionally set limit on the total number of residencies and allocating a specific percentage of those residencies for primary care; reforming GME to support the training of primary care providers; increasing incentives for practice in rural and underserved areas; and maximizing the use of a full range of health professionals, including physician assistants, nurse practitioners, and nurse midwives.

Most of the studies also recommend an increased use of community-based training settings for health professions education. Linking health professions education programs with community-based training sites encourages students and residents to choose careers in primary care and community-based service. COGME has made specific recommendations on medical school education, including expanding the training environment. It believes that medical education should provide a balance between hospital-based subspecialty care training and community-based primary care training. The community-based component should be organized with a significant amount of community involvement. COGME also recommends that academic consortia be developed to link the various training sites and undergraduate and graduate medical education training.

A report prepared for the W.K. Kellogg Foundation proposes changes to the financing of graduate medical education to redirect funds away from hospital-based training toward community-based training sites. It also supports the role of community-based training in increasing the supply of primary care providers and in encouraging those providers to practice in underserved areas.

Legislation recently introduced by John D. Rockefeller (D-W.Va.) and David H. Pryor (D-Ark.) in the Senate and by Henry Waxman (D-Calif.) in the House would create a National Health Professional Workforce Advisory Board to work with the secretary of health and human services in establishing a national policy that limits the total number of residency positions in each state. The bill proposes to limit the number of nonprimary care residency positions in all approved medical training programs to no more than 50 percent of the total number of positions.

The proposed legislation also would make several changes to the system of graduate medical education financing. Medicare would provide graduate medical education support for a residency program only if the program is in compliance with the national physician workforce goals. The proposal would revise the Medicare methodology for determining direct medical education payments for nonhospital providers to pay primary care providers a greater amount. In addition, Medicare GME would pay hospitals' costs for indirect medical education provided off site.

Sites for Community-Based Training

Linking community-based settings and academic medical centers to provide sites for graduate medical education is not a new concept. Throughout the beginning of the twentieth century, and even more recently in rural areas, a substantial portion of medical education occurred in physician offices or through physician apprenticeships that placed medical students in patients' homes for training. However, as the practice of medicine became more professionalized and institutionalized during the first part of the century, medical education slowly became limited to the confines of the academic medical center. As critical shortages of primary care providers in some of the most medically underserved areas demonstrate, the hospital-centered training approach is not meeting the nation's health care needs. As a result, community-based medical education is being revisited as a viable and useful education and training strategy. Several types of community-based training sites are possible.¹⁶

General Medicine Clinics. General medical clinics, though hospital-based, offer some of the advantages found in community-based training. Many of these clinics were developed in the 1970s to stimulate interest among medical students in general medicine and to provide primary care to poor and underserved populations. The clinics provide residents the opportunity to monitor the progress of a patient for three years. However, the success of these clinics as ambulatory care training sites that expose residents to the dynamics of community-based training is mixed. A study funded by the Robert Wood Johnson Foundation found that clinic costs were high, examining rooms were filled less than 25 percent of the time, and physicians spent more than 50 percent of their time on nonpatient care activities. In addition, after two years, less than half of the original patients still used the clinics. The clinics also must compete with inpatient hospital services for funding and resources. Given that inpatient hospital procedures earn a higher reimbursement than do outpatient procedures, it is likely that a majority of hospital resources will be directed toward supporting inpatient activities. Under these conditions, the use of general medicine clinics as community-based training sites cannot be relied upon to provide the type of training needed to develop substantial numbers of primary care providers.

State and Local Health Department Clinics. States have a vested interest in ensuring access to primary care. Consequently, it would seem logical to set up community-based training sites at state and local health department clinics. These training sites would greatly help increase access for some underserved and poor communities. By practicing at these sites, medical students could develop strong ties to the needs of a particular community. However, not all health departments provide primary care services for their communities, thus limiting to some extent the potential for linkage arrangements.

Rural Clinics. Rural clinics can play a major role in community-based graduate medical education and training and can do much to solve some of the access problems in underserved areas. They provide residents with firsthand experience on what it is like to practice and live in a rural area. Too often, medical school students are never exposed to rural clinics and develop negative impressions of such practices without complete information. At a minimum, training in rural areas will give residents an appreciation of the current health care needs in rural areas and the important role they can play as residents, or later as physicians, in meeting those needs.

Home Care. Home care settings can serve as sites for community-based training, though for a more limited population than is served by other training sites. As more resources have become available for home care, opportunities for graduate medical education in these settings have increased. Home care provides an opportunity for residents to learn how individuals interact with and are affected by their environments as they attempt to manage their lives in the face of certain ailments. In addition, training in a home setting exposes residents to a segment of the health care delivery system that is crucial to ensuring continuous, patient-focused care.

Nursing Homes. Nursing homes also serve as sites for community-based graduate medical education. Although they are useful in exposing students to the dynamics of geriatric care, they are limited in their ability to generate more primary care providers willing to practice in underserved areas. Like home care, nursing homes have a closed population, which restricts the type of care delivered and the nature of the patient and provider interaction.

Community and Migrant Health Centers. Graduate medical education at C/MHCs offers some of the greatest opportunities for addressing current provider supply and distribution problems. A majority of the 600 C/MHCs are located in either rural or urban underserved areas and treat populations that traditionally have had poor access to the most basic health care services. The University of Arizona College of Medicine, with funds from the Health Resources and Services Administration's National Health Service Corps and Bureau of Primary Health Care, recently published *The Family Practice Residency Community/Migrant Health Center Linkage Manual*. The report outlines some of the major advantages and disadvantages of linking graduate medical education and C/MHCs, which are discussed in detail in the next chapter.¹⁷

4.

Linkages Between Community and Migrant Health Centers and Health Professions Education Programs

Incentives for Linkages

There are numerous incentives for community and migrant health centers and academic institutions to collaborate. Chief among these is the need to increase the supply of primary care providers. Although the number of primary care physicians is shrinking, the demand for their services is increasing substantially, especially in underserved communities. The aging of the population, the loss of obstetrical care in rural areas, and the increasing number of immigrants have all increased the demand for primary care physicians.¹⁸ Adding to these trends is the dramatic increase in recent years in the number of people testing positive for the human immunodeficiency virus (HIV). As these patients are diagnosed earlier, treatment in ambulatory care settings becomes more appropriate.¹⁹

By establishing linkages between C/MHCs and health professions education programs, students' interest in primary care can be fostered before they decide on a field of practice. Residents are more likely to consider a C/MHC site for future practice if they have had a positive center training experience.²⁰ Moreover, physicians trained on site in C/MHCs are more likely to have developed the skills, knowledge, and attitudes to meet the unique needs of the underserved. The centers also provide students with the opportunity to see a more diverse clientele than they would see at a hospital. Other advantages the linkage gives to the academic program are the broad array of services to which students are exposed and the opportunity for students to work as part of interdisciplinary teams.

In addition, physicians with an interest in teaching are attracted to clinical settings where they have a hand in the training of residents and medical students.²¹ The students also benefit from this arrangement because these physicians often become forceful role models and advocates of community-based primary care. And, while C/MHCs are an excellent vehicle for academic physicians to engage in on-site training experiences, the centers' academic ties also keep their physicians abreast of the latest research and changes in treatment and technology. This enhances patient care, which then may increase C/MHC productivity. When the community knows a university is connected to a community and migrant health center, new patients may be attracted.²² The public perception is that if a university is involved, the quality of care will be very high. However, C/MHCs also must be aware of the potential for an opposite reaction in the community. Patients may feel that their care is being left to students rather than to their own physicians. Addressing these fears early and positively has proven effective.

Establishing linkages between C/MHCs and health professions education programs also affects the quality and stability of C/MHC personnel. Historically, the centers have found it difficult to interest residents in their clientele and to retain them once they arrive. Where the clinic has institutional ties, the increased access to health data and health planning resources, the expansion of services and patient volume, and the enhanced research opportunities have proven to be powerful inducements for residents to stay long enough to develop an appreciation of the critical role primary care plays in medicine and to instill in them a desire to become part of that system.

Obstacles to Linkages

Although the benefits of establishing linkages are numerous, there also are some obstacles that must be overcome for the partnership to succeed. This will require careful planning by both the health professions education program and C/MHC. The obstacles impeding the establishment of linkages include the following.

- **Generating enough interest on the part of residents and students** to practice primary care in underserved areas is the biggest hurdle in effecting a successful linkage program. Oftentimes the practice site may be a drawback, particularly if it is in a dangerous or isolated area. If the linkage is established and only a relatively small percentage of residents and students enroll to practice in the health center, all the planning and effort devoted to fostering the relationship may produce little gain. Both C/MHCs and health professions education programs must make a concerted effort to demonstrate the benefits of primary care to residents and students.
- **Financial remuneration may be a consideration for students** thinking about a career in primary care. A particular concern of medical students is debt repayment. As the cost of medical school continues to escalate, students must have an adequate income after graduation to pay back the loans they have secured to finance their education. Primary care providers, especially in underserved areas, often are at the low end of the pay scale. How can student interest and entry in a known low-paying arena be generated? New York Medical College has implemented an innovative strategy of forgiving loans of up to \$22,500 provided students enroll and stay in primary care for two years. If they enter primary care and stay three years, tuition for the final year is waived.²³ If C/MHCs and academic institutions collaborate on different recruiting strategies, the hurdle of student interest can be overcome. In addition, the exposure may prove effective in overcoming some of the financial disincentives to primary care practice.
- **Escalating costs** to both C/MHCs and health professions education programs are another significant barrier. Once a linkage is established, center clinicians need to spend additional time teaching and mentoring residents and students. This decreases the amount of time the clinicians have for their patients, which can affect clinic productivity. Although C/MHCs gain more personnel because of the linkage, all of these new residents or students need to be taught the rudiments of primary care and they must be supervised extensively, particularly in the first year. As a result, the number

of clinic appointments may drop by as much as half. Center income then drops while operating costs rise.

- **Space limitations** because of the increased personnel engendered by a linkage are another problem. Training students requires additional examining rooms, office space, and paperwork. There are no "extra" funds to expand the existing space or to move to a larger space. The linkage programs often are financially strapped and are in no position to provide assistance. If space can be loaned or shared among the linkage partners, solutions can be found.
- **Increased time and costs for administrative duties** are another factor that may impede a successful linkage project. Increased personnel means a more complex clinic schedule. The schedule is affected in terms of the number of appointments per day and in the scheduling of examination rooms and consultation time, which is extensive because this is an important aspect of the educational experience. Clinician supervision responsibilities entail not only consultation, but also documentation of the residents' or students' educational experiences. Time for interviews, mentoring, and evaluation also contribute to higher administrative costs.²⁴
- **Administrative time and costs** increase not only for C/MHCs, but also for the health professions education programs. Considerable time and effort must be devoted to coordinating resident and student schedules. For example, many centers are located a considerable distance from the hospital where the residents are rotating. Making sure there is ample travel time between classes and appointments and trying to keep the number of trips per day to a minimum requires micromanagement on the part of administrators. They must be particularly aware of not overloading residents' already busy schedule.
- **Community support** is another issue that must be addressed. Although affiliation with a local university may improve the center's reputation within the community, its patients may perceive that they are test subjects for students. Appropriate supervision and trust with students must be developed. Longer rotations and good supervision can allay many fears within the community.
- **Control** is another factor that must be carefully weighed before a linkage is established. Specific parameters need to be set between the health professions education program and C/MHC to determine which entity controls what function. Of course, the center's main concern is ensuring that its particular interests in delivering primary care and meeting the needs of the community are met. The executive director, clinical director, and community board all must have a voice in determining the functions over which they will have autonomy. The residency program must ensure that its primary function of educating residents is met. If the delineation of roles is not predetermined, conflicts are likely to develop when the linkage is implemented. This issue is further complicated when trying to determine cost allocation. Separating training costs to be paid for by a health profes-

sions education program and service costs to be paid for by the center often is difficult. Most often, the two are inextricably linked. A determination up front of who pays for what can alleviate problems once the linkage is established. Additional considerations that need to be weighed include the role of university faculty in center operations and the involvement of the center in selecting medical students for rotations.

Consensus Among the Linkage Partners

The first and most important step in developing a linkage is to reach consensus among the different entities on what each organization will gain from the linkage. Yet before an organization can visualize what it hopes to gain, it must first have a very solid understanding of its mission and what its needs are. This is an ongoing process because the needs of an organization change as it develops and grows.

During the negotiations it is also important to know the needs of the other partners. Both the residency program and C/MHC need to understand and respect each other's missions and unique constituency. The roles and responsibilities of each must be clearly identified and agreed upon in advance. The residency program and C/MHC also must recognize the importance of developing clinical teaching skills. Last, open and regular communications must be the rule throughout the entire relationship. During this process it is also important to maintain a list of the minimum objectives and/or needs that must be met before agreeing to participate in the linkage.

For example, the primary mission of the health center is to serve the community in which it is located. C/MHCs need to be careful during linkage negotiations that the goal of delivering preventive and primary care in an outpatient setting is not overly compromised. Some compromises are inevitable in any negotiation, but C/MHCs must ensure that the compromises are proper for the situation and are not detrimental to the community.

Understanding the different corporate cultures of each organization also is essential for a successful collaboration. Table 2 highlights general perceptual differences among potential linkage partners. The key elements are as follows.

- **The major function of each institution** is the most important aspect of its culture. Although each institution has a distinct function, it is possible to develop a symbiosis among the hospital, university, and C/MHC. Although each function seems to be totally separate from the others, a more cohesive plan of care can be developed when there is collaboration.
- **The decisionmaking style** of each organization can be a very important factor in a successful negotiation. Generally, the more removed from direct patient interaction, the longer it will take for a decision to be made. Understanding this helps not only during the negotiating process, but also once the linkage is established.
- **A willingness to collaborate** also is important. Collaboration is extremely high among C/MHCs' priorities because it is built into the system. Each center must provide a comprehensive set of services, often without the resources to directly provide those services. As a result, collaboration is the

Table 2
Analyzing Differences in Corporate Culture

	<i>Community Health Center</i>	<i>Hospital</i>	<i>University</i>
Major function	Preventive and ambulatory health care	Inpatient health care	Research
Principal stakeholders	Underserved area residents	Physicians, patients	Research faculty
Decisionmaking style	Very fast, based on limited information	Moderate	Very slow, extensive committee involvement
Collaboration ability	High, required as a condition of funding	Moderate and improving; historically independent but forced to collaborate in new marketplace	High, good resources available
Willingness to collaborate	High, strong need	Moderate	Low, limited need
Wealth - reserves	Nonexistent	Variable, moderate to high	High to very high, endowments (?)
Ability to enhance public image	Low	Moderate	Very high
Political power	Variable to moderate	Low to moderate	High to very high
Need for teaching programs	Moderate	Very high	Moderate to high
Teaching contributions available	Outpatients with significant problems, faculty, outpatient facility (?), access to specialty services	Inpatient services, access to specialty services	Program and faculty accreditation, research connection

SOURCE: Chris J. Shea, Blackstone Valley Community Health Care, Pawtucket, Rhode Island, presentation at C/MHCs and Health Professions Education Collaborative Opportunities Forum, October 14, 1993, Washington, D.C.

only viable alternative. Hospitals historically are set up to be fairly autonomous; everything they need is situated in one building, or a complex of buildings, from on-call physicians to laboratory testing. Recently, however, hospitals have recognized that the integration of services benefits all concerned, and their willingness to collaborate is increasing.

Universities have a very high collaborative ability, though they are fairly self-sufficient. Money often is not an issue, so they have no need for an outreach program to other institutions.

- **Political influence** can make its presence felt in negotiations. Community health centers have moderate clout. Legislatures are very aware that the board of directors is community-based and this can carry weight in political sessions. Traditionally, hospitals have not been very involved in trying to influence local political decisions. Universities have a very high political awareness and the assets to make their positions known.

- **The need for teaching programs** also reflects the differences in corporate cultures. For C/MHCs, teaching programs are somewhat a two-edged sword. On the one hand, the programs are very good for the general population because they ensure that primary care positions are increasing or, at the very least, are remaining stable. However, the toll taken on individual centers can be very high in terms of cost and support systems. Hospitals have an extremely high need for teaching programs. Direct medical education benefits cover their basic costs and indirect medical education benefits are even higher, so hospitals have a vested interest in keeping their residency programs active. Universities have a moderate to high need for teaching programs located in community health centers. Although they might like the additional funding such a linkage would bring, they have no real need to actively pursue an arrangement.

Strategies for Establishing Linkages

Strategies for establishing linkages necessarily will vary greatly. Each linkage is unique with regard to structure, finance, and recruitment needs. However, some general rules can guide the decision to establish a linkage.

- A clear understanding of why and how a linkage would benefit an organization is essential. Each participant in the linkage should be able to outline to the others its agenda, mission, program, and financial goals. Negotiating teams should consist of all of the professionals who will be affected by the linkage, including residents, other mid-level health professional students, faculty, health center providers, staff, administrators, and health center board members.²⁵
- An organization should not expect a perfectly functioning alliance to develop overnight. The partnership will develop gradually as the various staff of the different entities build their relationships within the alliance. As in any working environment, some relationships will be a better "fit" than others, and time is needed to let these develop on their own.
- From the very beginning, any partnership should have a clear understanding of the educational parameters of each entity. In *Primary Care Career Enhancement and Training Experiences at Public Health Service Clinical Sites*, the American Medical Student Association Foundation recommends that the educational component of community-based training include the following.
 - Primary care/ambulatory training of at least 25 percent.
 - Specified education goals and objectives and a regular evaluation system. The Montefiore Primary Care Program in the Bronx, New York, recommends using a clinical encounter form that a resident must fill out for every patient. This form is then used to discuss and make recommendations on patient care. To fulfill educational needs, residents should be included in patient audits and recommendations for plans of care.
 - A mentoring system to support trainees.

- On-site, qualified faculty.
- Training and faculty development for community physicians.

In addition, the educational component should incorporate:

- the use of mid-level health professionals with community physicians for multidisciplinary clinical care;
- the participation of residents and students in the organization of clinic services (e.g., practice management and the determination of financial barriers to care), as well as public policy exposure to understand categorical programs and the organization of health care systems locally and nationally;
- an understanding of the community's demographics, received through cross-cultural training, to learn skills in health promotion/disease prevention and to gain an understanding of the importance of psychosocial factors in the delivery of health care;
- an understanding of the personal role of the physician in underserved communities; and
- the establishment of a formal network among training institutions and educational facilities, with appropriate resources available.

Once the linkage is up and running, the benefits for all concerned—students, primary care providers, hospitals, academic institutions, and underserved populations—have been shown to far outweigh the obstacles that must be overcome. Yet the spirit of collaboration must be constantly fostered and enhanced if the linkage is to have a long and profitable future.

Financing the Linkage

There is no foolproof approach to financing a service education linkage. The approaches have varied and will continue to vary dramatically by state and local community, based on the particular circumstances, political dynamics, and resources affecting the potential partners in the community. Many community-based providers, health professional institutions, and hospitals agree that the entity with which the money and power lie will help dictate the type and structure of the linkage that is developed. However, this does not necessarily mean that the money and power will always be controlled by the same linkage partner. For example, in a service education arrangement between a medical institution and C/MHC, the medical institution may have access to the money while the health center may be in a position of power because it is the major source of primary care in the area. These types of dynamics and any other potential incentives and disincentives must be carefully evaluated when planning and developing a linkage program.

To develop a successful linkage program, a number of major financing issues must be resolved. The health center must decide how the program will be financed. There are a number of possible funding sources, though most are limited. The center also must evaluate the financial impact of the linkage on the center and how the costs

will be allocated among the linkage partners. Last, it is important for the center to develop a financing strategy that is practical, given the center's financial resources, and that is capable of sustaining the linkage in the long term.

Financing Potential by Type of Provider. Each potential partner has resources to provide and/or to realize from a service education linkage. Consequently, during negotiations it is important to recognize the funds or in-kind resources that each partner can bring to the collaboration (see Table 3).

Table 3
Potential Linkage Funding Sources by Type of Provider

<i>Type of Provider</i>		
<i>Community-Based Provider (e.g., C/MHC and AHEC)</i>	<i>Hospital</i>	<i>Academic Institution</i>
Foundations	Foundations	Foundations
Excess program funds	Graduation medical education funds	Graduate medical education funds
Private donations	Patient revenues	Public or private funds
Salaries and administrative time to start linkage	Startup costs to C/MHC	Residency program to cover resident salaries
Direct training funds as a designated residency program		
Space and teaching time	Facilities and/or space	
State funds for student loan repayment program if providing care in underserved area		State funds for student loan repayment program if providing care in underserved area
Major source of primary care (in-kind contribution)		

SOURCE: National Governors' Association, fall 1993.

Foundations are a key source of funds for all three types of linkage providers. Foundation-sponsored programs help ensure that health professional trainees (e.g., medical residents and students, nurse midwives, physician assistants, and certified nurse practitioners) are part of service education linkage programs. However, foundation support cannot be counted on to provide a constant source of funding. As a result, graduate medical education funds are the most prevalent source of funds for many linkage arrangements. However, for these service education linkages to become fully viable, GME funds must be made available for primary care training in community-based settings. These funds primarily come from patient care revenues, Medicare payments, state funds, and other special federal funding streams such as Title VIII of the Public Health Services Act. Given the range of additional resources available to each type of provider (e.g., public or private funds, in-kind support,²⁶ and state funding of student loan repayment programs if care is provided in underserved areas), linkage programs may rely on a combination of these resources to develop, implement, and sustain an arrangement.

As health care reform has received more serious attention at both the state and national levels, C/MHCs and other community-based providers increasingly are being

recognized as a major source of primary care. The increased demand for primary care providers potentially will place many community-based providers in a position of power when negotiating the development of service education linkages. This newly found leverage is an important factor to weigh when developing a financing strategy.

Financial Impact. An important step in determining the viability of developing a linkage program is to assess the financial impact of the linkage on all potential partners. Often this is very difficult to accomplish because many of the benefits and costs of the service education linkage are not easily quantified. For example, how would a provider quantify the potential recruitment and retention benefits to underserved areas (i.e., whether the trainees actually will return to work in these communities), the added diversity residents and/or students will contribute to community-based programs, or the impact on C/MHC staff productivity because of the amount of trainee teaching time or the trainee-to-preceptor teaching ratio required by the linkage program?²⁷

However, several types of financial information can be assessed during the preliminary stages of developing and negotiating a linkage plan. First, each provider can conduct a feasibility study of the projected time and costs that would be required to develop, implement, and maintain its part of the program. The time and costs required would depend on the type of linkage being developed and the combination of funding sources being proposed. For example, establishing a family practice residency program at a health center would require a different commitment in terms of negotiation time, administrative support, and teaching time than would setting up a statewide linkage initiative. A statewide linkage would require the coordination of multiple funding sources (e.g., foundations, state funds, GME funds, and in-kind support) and of numerous high-level officials from state agencies, the legislature, health professions education institutions, and community-based organizations. This would necessitate a great deal more staff time for negotiation and administrative activities. In addition, regardless of the type of linkage being pursued, it is important to recognize that very different costs are associated with training students at different stages of their medical education and with training other health professionals.

Second, potential participants need to negotiate how certain costs will be shared or allocated among the linkage partners. For example, many established linkage programs between C/MHCs and family practice residency programs that are connected to a medical institution and/or hospital have had to devise strategies for paying for the salaries of residents and faculty teaching at the community and migrant health center. These strategies include having the residency program or C/MHC take sole responsibility for paying residents' salaries; having the partners share the salary expenses (e.g., C/MHC pays 30 percent of expenses and residency program pays 70 percent); and using the revenue generated by residents at the health center to help defray salary costs. The salaries of faculty teaching at the health center usually are the responsibility of the center.²⁸ This cost disadvantage is offset by the benefits that accrue to the health center from its participation in the linkage program, including the additional staff and the opportunity to recruit and retain physicians from the resident pool and through its affiliation with area hospitals and health professions education institutions.

Successful Financing Strategies and Stable Funding. Several financing strategies have proven successful. One approach combines GME funds; foundation funds; public and private funds and/or donations from institutions, hospitals, or

community-based organizations; state or federal program funds; and/or in-kind support. Under a second approach, the community and migrant health center becomes an accredited residency program.

It is very common for C/MHCs to support the linkage arrangement by piecing together funds and in-kind contributions from many sources, such as those listed above and those described in Table 3. At the most innovative end of the linkage development continuum is the designation of the health center as a residency program site that receives GME funds. The profile of the Greater Lawrence Family Health Center highlights the development and implementation of the only C/MHC-affiliated residency program so designated. As states move toward statewide linkage initiatives focusing on primary care training in community settings, it is anticipated that successful financing strategies will become even more varied. (Statewide community-based initiatives are discussed in the next chapter.)

It is important to emphasize that no single financing strategy will be ideal for the range of communities and states trying to establish and implement service education linkage programs for the purpose of providing primary care in community settings. The funding sources, time constraints, political dynamics, and perceptions of all the potential linkage partners must be carefully considered when developing a viable financing approach.

Ultimately, the sign of a truly successful financing strategy is its ability to sustain the service education linkage program over the long term. The primary hurdle is to determine the true cost of the program over time, regardless of whether it is a residency program or an undergraduate-level program. The partnership would have to conduct a comprehensive cost analysis of what actual costs would be incurred in a teaching program, beginning with the preprofessional years and continuing through fellowship programs. Problems related to limited resources, space, and staff also would have to be factored into this analysis. Finally, the longevity of potential resources, such as Medicaid and Medicare, state funding programs, foundations, and private insurance would have to be carefully considered.

A majority of linkage programs are still trying to identify a comprehensive financing strategy that can sustain them over the long term. Several changes would promote stability in funding. First, the function of graduate medical education funds needs to shift from focusing primarily on hospital-based patient care services to also cover primary care and other health professional services provided in outpatient community-based settings. Second, universities should consider partially shifting their focus from research that is concentrated primarily in hospitals and laboratories to teaching that includes community-based training programs. If changes like these were made, service education linkage programs would be able to share in a broader financial base that could also support needed systemic health care reforms.

Outcomes of Linkage Programs

Ultimately, the success or failure of any enterprise is directly linked to its results. Tracking students enrolled in linkages through an evaluation procedure, both during and after training, offers the most reliable method for determining the effectiveness of the primary care training program.

Reasons for Tracking. Tracking offers a number of benefits to the entities involved in a linkage program. Tracking allows both the health center and the academic residency program to gauge the effectiveness of the program in areas such as quality of care, training quality, residents' personal and professional development, and staff development.²⁹ The feedback gathered through this kind of assessment allows centers to tailor their program to the needs of the communities and the institutions they serve. It is important to identify the component of the educational process that is most responsible for generating the desired results.

Tracking procedures and the information they generate also can greatly affect a center's fund-raising ability. If a center can enter into grant negotiations with documentation on how effective its program has been in recruiting and retaining health professionals, the request for funding will be strengthened immeasurably.

C/MHCs also benefit from the peer networking that evolves as a result of the tracking process. By keeping in touch with health professionals after training is completed, centers can build an impressive file of contacts across the nation in all areas of primary care. As these former students continue practicing in the field, their experiences and lessons learned can be shared with the broader health center community. This knowledge is disseminated to the C/MHC community in two ways: through former classmates communicating with one another via network directories and through group tracking files kept by the educational organizations. These files usually are open to center staff and students for educational purposes.

In addition, by asking former students for feedback on their educational experience and on the usefulness of specific aspects of the training once they are practicing on their own, a wealth of knowledge can be gained. In this way, the educational experience can be better tailored to enhance the productivity of graduates. The better institutions understand the effect of specific program elements on career choices, the better they can try to meet the future needs of their student populations and the future demands of health care reform. This data also can give prospective staff members or students a good overall view of the pros and cons of a particular program.

Information Tracked. Tracking helps assess the success of a linkage program in achieving its goals. To increase the utility of the assessment, the center must determine, based on its goals, what types of information it wants to track. Some areas of evaluative interest are the number of residents/health care professionals who apply; the experiences gained by the students and the preceptors; the specific benefits that accrue to the various branches of the linkage, including the community; the costs that may be incurred; the number of students who complete the program; and, once the training is complete, the number of health care professionals who stay in the primary care/C/MHC environment and for how long.³⁰

The American Medical Student Association Foundation has recommended that health centers track the following information regarding training linkages with academic residency programs.³¹

- Status after program completion (e.g., fellowships or board eligibility or certification). If the graduate has a fellowship, it is important to know whether it is as a subspecialist or generalist.

- Practice type (e.g., fee-for-service, prepaid, group/solo, multi/single specialty, public sector, private nonprofit sector, C/MHC, academic center, military service, or research).
- Geographic practice setting (e.g., rural, urban, or underserved community).
- Client population demographics (e.g., economic factors, ethnic mix, Medicaid/third-party payer, and number of uninsured).
- Ongoing career enhancement opportunities (e.g., advanced educational courses or grants/fellowships).
- Personal impact (e.g., spousal support and effects of living/serving in an underserved community).
- Practice setting (e.g., hospital or nursing home).
- Types of health care professionals. If a team approach is used, it is helpful to know who is responsible for what duties.
- Personal financial situation (e.g., loan repayment or forgiveness).

Other information could prove beneficial. For example, it would be useful to know the demographics of the graduates, including their age, gender, and ethnicity. In addition, it would be helpful to know how many hours per week the graduates devoted to duties such as administration, research, and patient care while in the training program. Finally, it would be useful to determine how well graduates were prepared for both the subspecialty areas and social services aspects of community care (e.g., behavioral science and substance abuse).

Tracking Methodology. Various factors will affect the methodology used to track the outcomes of a training program. The most important of these factors relates back to the goals each participating institution hopes to achieve by entering into the linkage. Because each entity has its own goals, there can be no generic tracking system to cover all areas of primary care. Although some basic data can be collected and applied to all linkage institutions, most of the tracking questions need to be tailored to the goals of each institution. Each institution must come up with its own assessment tool and track the answers with its overall missions in mind. There will be as many different ideas of what constitutes a successful program as there are types of linkage affiliations.

In addition, because overall missions vary from linkage to linkage, the offered curriculum varies. The curriculum of a linkage set up to serve a rural population will differ greatly from the curriculum of a linkage established in an inner city. Consequently, each linkage program will have to use different tracking questions to assess the benefits of various training components in meeting the needs of the population it serves.

Once an organization has compiled a list of questions it believes are pertinent to determining the quality of its program, it must decide how often this information should be collected. The Montefiore Hospital Project in the Bronx, New York, a leader in tracking its students, tries to send out its questionnaire every three years. However, it is approximately five years between mailings because of the time required to accurately track and followup on students.

After the questionnaires are sent out, personnel need to assume the responsibility for followup. Because the students typically have little incentive to respond, extensive and time consuming followup may be required, including phone calls, letters, and the compilation of incoming data. To address the nonresponse issue, the Montefiore Hospital Project offers the reward of an updated directory to respondees. This computer-generated directory alphabetically lists all graduates, lists the year they graduated, and lists graduates according to their area of care. This method has proven effective in obtaining responses.

Once the responses are collected and analyzed, the organization should have a very useful tool for gauging the success of its program and ideas for improving the overall quality of the training it offers. Documentation of the organization's success also gives it an advantage during grant negotiations.

5.

Other Partners in Community-Based Training

The Role of Nonphysician Health Professionals

Any discussion of increasing the quality and quantity of primary health care centers and other primary care providers in underserved areas also must explore the role of nonphysician health professionals, including physician assistants (PAs), nurse practitioners (NPs), and certified nurse midwives (CNM). The number of PAs, NPs, and CNMs has been gradually increasing over the past two decades; 25,000 nurse practitioners, 23,000 physician assistants, and 5,500 certified nurse midwives now practice in the United States.³² This averages out to approximately one non-physician provider for every twelve physicians and one for every four primary care physicians. As the number of primary care physicians has declined and as the need for primary care providers has continued to rise, nonphysician professionals increasingly have filled this gap. About 55 percent of physician assistants practice in primary care, most of them in communities of less than 50,000.

A large part of nonphysician practitioners' education focuses on integrating streams of care and on creating a team of professionals, all of whom work together on behalf of the patient. In particular, nurse practitioners and certified nurse midwives are trained to play a more collaborative leadership role in primary care services, coordinating not only the medical aspects of a patient's care but also the social services aspects. The goal is to create teams that can meet the health care needs of the population they serve, regardless of whether their patients live in isolated rural areas or underserved metropolitan areas. This type of focus during their training makes nonphysician health professionals ideal providers in a community-based setting, where coordination of all aspects of care is so crucial.

Cost and efficiency are the two main reasons for ensuring that nonphysician professionals are part of linkage arrangements. It is quite possible that the use of these providers can reduce operating costs in primary care settings. The salary outlay for nonphysicians is lower than that for physicians. Moreover, because much of nonphysician training centers on preventive care, these health professionals are more likely to implement programs that focus on preventive care and that have the potential to greatly reduce future costs. The efficiency factor comes into play when allied health professionals take over certain duties within the centers, thus freeing physicians to use their time in a more cost-effective way.

For nonphysician health professionals to play a role in linkage arrangements, they must be more broadly accepted into the mainstream of health care delivery. Medical schools must recognize the role these professionals can play in meeting the

teaching and delivery needs of communities. Also, practice parameters for nonphysician providers need to be broadened to maximize the role these providers can play in expanding access to underserved populations and areas. States have significant jurisdiction over such matters and could take steps to increase the use of these providers.

The W.K. Kellogg Community Partnerships Program demonstrates the benefits of using non-physician professionals in a linkage association. The program began in 1991 and funds seven sites in Atlanta, Boston, Hawaii, Michigan, east Tennessee, Texas, and West Virginia. For example, one goal of the Center for Community Health, Education, Research, and Service (CCHERS) program in Boston is to create academic community-based health centers that reflect a partnership among universities, health centers, community members, and various other groups, depending on the location of the particular center. The program seeks to involve all health care and other related disciplines, including physicians, nonphysician professionals, and social workers.

To generate early interest in primary or community-based health, students are given the opportunity to work in the community and primary care. In its first year of operation, the program reached out only to medical and nursing students. In 1993 social work students also are being integrated into the program. It is hoped that this early exposure to community-based care will result in students choosing to practice in this discipline upon graduation.

Community involvement is critical to the program's success. The community served by the clinic has significant input in determining how clinical time will be spent. Once the students are identified, they are assigned to a particular community at the very beginning of their clinical program. Their time is allocated so that approximately half of their clinical time reflects the community-based primary care orientation.

One of the unique elements of this program is that the students make a commitment to one particular community for four years, starting at one-half day to two days per week and, in some cases, working up to a full-time rotation of seven weeks. Most residency programs have short, intense rotations. Although these offer a good learning experience, they do not foster the longer term commitment or knowledge gain of CCHER's longer, more comprehensive community rotations.

In the first two years of the internships, all students (i.e., medical, nursing, nurse practitioner, certified nurse midwives, and physician assistant) are taught in the same classes and have the same clinical experiences. Only in the third year is there a focus on a particular discipline. This helps foster an integrated system of care among all types of health care professionals. A cohesive team spirit is engendered from the very beginning, which serves to circumvent problems that may arise later.

The last goal of the program is to develop a community base where research can take place to evaluate the success of the approach. It is important to be able to assess the care that is being provided, assess the educational models that exist, and develop recommendations for the long-term tenure of the program.

Foundations in particular have established a substantial support base for linkages among medical personnel of all levels and also for primary care settings. Recognition of the need to continue developing these types of programs has been accelerating. Under legislative directive, the Health Resources and Services Administration's Office of

Rural Health has begun sending teams of physicians and nurse practitioners to rural communities to discuss the benefits of using both physicians and nonphysician practitioners.³³ Kentucky is developing additional community-based training sites for NPs, PAs, and CNMs.³⁴

Many schools of nursing are implementing strategies that would increase the emphasis on integrated care. With the expansion of these strategies, the integration of nursing schools into linkage affiliations could prove very beneficial. By emphasizing the needs of community-based patients, nursing schools are tailoring themselves to the needs of C/MHCs. If these schools develop more providers and services that reduce costs and improve access and quality, this would also help relieve some of the increased costs associated with establishing service education linkages.

The Role of Students

To effectively increase the training opportunities for medical students and residents in community-based settings and increase the number of residents who practice in the community after completing their training, students and residents must be involved in the development and planning of community-based training programs. Students and residents cannot simply be managed and trained by the system as it attempts to achieve a greater balance in provider supply and distribution. They should be integral participants throughout the entire process of negotiating, implementing, and administering linkages between academic professional education programs and community-based training settings.

It is important that those involved in designing and implementing community-based training programs consider the perspectives of students and residents. Without students or residents willing and able to participate, these programs will not accomplish their objectives.

Early Exposure. Medical schools often fail to expose students and medical residents to community-based training at an early stage. This tends to bias students' professional preferences toward the medical subspecialties. Students need to be exposed to the virtues and rewards of community-based training as soon as possible.

Not only is this good policy, but it also coincides with the opinions of many young health professionals regarding their residency training. A Robert Wood Johnson Foundation survey conducted in 1991 polled young physicians regarding the adequacy of their medical training.³⁵ More than half of the respondents felt that their training did a "fair to poor job" of preparing them to coordinate patient care with community services. The majority of the young physicians surveyed believed that too much of their training took place in tertiary care settings and that more training should have taken place in other settings, such as physician offices and long-term care facilities. Medical students and residents wanted greater exposure to community-based training. Such exposure gives them an opportunity to get out of the classroom and to experience the realities, demands, and rewards of working with patients in their communities.

Role Models. A crucial factor influencing medical students' professional choice is exposure in their medical education to faculty and physicians who demonstrate a commitment to and appreciation of the role of community-based training. Too few

medical school preceptors are primary care providers and too few have significant community-based experience. Most of the preceptors have spent a majority of their professional careers in university settings and know very little about the differences between medicine practiced in a university and medicine practiced in the community. As a result, even if students are interested in practicing primary care in the community, they have access to very few role models who will encourage and support such an interest. Regardless of their interests, students are forced into a learning environment that is very institutionally based in focus and highly technically oriented in practice.

Debt Assumption. A dilemma facing many students who are thinking of entering into primary care practice is the repayment of student loans. Because educational costs are continuing to increase, this is an extremely important concern. The incomes of primary care providers in underserved areas do not approach the incomes of specialists. For this reason, some states are implementing debt forgiveness programs for students who pledge to practice primary care for a certain number of years after graduation.

Positive Peer Support. An important issue for medical residents interested in primary care is access to a system that supports and encourages their professional interests. Given the bias of many medical education programs toward institutionally based, specialty care, students find few opportunities to share and explore their interest in primary care with other students and in the community. Students often form support groups or interest groups to enable them to meet on a regular basis to discuss their interests and locate opportunities in the community to obtain more practical experience and expertise in primary care. Students also receive support from organizations such as the American Medical Student Association and the American Academy of Family Physicians that provide financial and program support for various educational initiatives in primary care.

However, statistics suggest that students are not getting the support they need because a large number of them who are initially interested in primary care wind up choosing a different medical specialty when selecting residency programs.³⁶ If the current imbalances in the supply and distribution of providers are to be corrected, medical schools need to incorporate into their teaching and training curricula programs that encourage and support student interest in primary care.

Stable, Long-Term Funding. The lack of a dependable system of financial support for community-based training dissuades residents from choosing careers in community-based primary care. There is little incentive to train in a setting that is potentially underfinanced or, if it is financed, is financed for a short period with no guarantee of long-term support. Most residents would prefer a training site that receives sufficient and predictable financial support. The current system of financing graduate medical education provides such support and predictability only for institutionally based training.

The Role of Area Health Education Centers

Area health education centers are playing a major role in state efforts to expand access to health care services in underserved areas. Their explicit missions are to train primary care providers for service in underserved areas, to increase the number of minorities in

all health professions, and to develop more training sites in community-based settings such as community and migrant health centers, health care for the homeless programs, and public housing projects. Crucial to AHECs' mission is their ability to work with academic residency programs and to cultivate or respond to these programs' interests in supporting community-based primary care training.

AHECs pursue their mission by providing the following types of support. They provide financial support to community and migrant health centers conducting primary care education; support minority recruitment, training, and retention programs with historically black institutions; develop residency program rotations in city homeless projects; and support provider educational networking in rural areas through sophisticated telecommunication systems.

In many areas, AHECs provide the leadership and coordination that enable a wide variety of provider training opportunities. For example, three community AHECs in Virginia are supporting training programs in rural and urban underserved areas for medical, nurse and nurse practitioner, dental, and other allied health professionals. The Northwest AHEC is supporting preceptorships for community-based primary care rotation programs in underserved and rural areas. The Southside AHEC supports training for medical and nursing students at the Medical College of Virginia. Students participate in a one-month community-based training program that emphasizes health promotion and disease prevention. The Eastern Virginia AHEC supports a training program at a migrant health clinic in Delmarva. The students provide health care to migrant workers and their families, screen migrant children for health problems, and provide health education.

Given the experience of AHECs in working with diverse groups and institutions, they are in an excellent position to provide leadership at the local, state, and national levels in efforts to better serve underserved areas. They are ideal disseminators of information and facilitators for regional and statewide health education programs.

The Role of States

As the need to increase access to health care services in underserved areas becomes more apparent, a variety of public and private organizations are joining forces to meet this challenge. At the community level, organizations that several years ago had very little interest or incentive to work together are forming partnerships to improve access to primary care. Hospitals, medical schools, community providers, and local government agencies are helping create a delivery system that is responsive to the health care needs of their community. Within this cooperative environment, organizations are discovering ways to better coordinate and share health care resources to ensure that all individuals have access to health care delivered in appropriate settings.

A few states, including California, New York, Virginia, and West Virginia, have begun the process of coordinating these isolated community-based training initiatives at the state level. Statewide coordination seeks to identify a common goal and set of objectives for all of these efforts and to promote cooperation among the various training resources and initiatives. Not only are providers within a particular community working together, but more important, communities and providers throughout the state

are working together to achieve a common goal. Statewide coordination offers a number of advantages.

Statewide coordination strengthens a state's ability to adequately address health care delivery and provider supply issues. It brings together the various academic institutions and their training programs to develop curricula that promote the education and training of primary care professionals and to integrate that curricula in a way that best meets the health care delivery needs of the state. For example, Virginia's three medical schools—the University of Virginia, the Medical College of Virginia, and the Medical College of Hampton Roads—are working with the state's Joint Commission for Health Care to address provider supply needs. Part of their work is being supported by a grant from the Robert Wood Johnson Foundation under its Generalist Physician Initiative. Institutions that historically have competed with one another are learning how to cooperate in order to attain a shared vision.

Statewide coordination facilitates communication that encourages the sharing of information, experiences, and expertise. This promotes a more efficient and cost-effective system. For example, West Virginia discovered that when students were sent to communities for training, they did not want to be housed in strangers' homes. As a result, the state explored other housing arrangements. Communication also helps identify systemwide problems, such as the most severe shortage areas, deficiencies in the training of particular types of providers, and the greatest health problems in the state.

Statewide coordination also makes it difficult to reduce the commitment both to community-based training and improving access to health care in underserved areas. With a strong base of community support and a large number of individuals and institutions committed to the goals and to working with one another, it becomes more difficult and politically unpopular to reduce these investments.

Last, statewide coordination in primary care serves as a tremendous enabler for comprehensive state-based health care reform. The coordination brings together the major players in the state who are responsible for delivering health care. It develops trust and cooperation among physicians, allied health professionals, provider associations, academic health centers and education programs, community providers, and state and local government. Cooperation among these entities is essential to reforming a state health care delivery system. Statewide coordination helps articulate common goals to all players and promotes discussion of ways to meet those goals. It also helps identify problems and obstacles that must be addressed. All states realize that in order to achieve universal coverage, individuals must have access to affordable, appropriate health care. Candid discussions on how to reach state goals, the obstacles to reaching those goals, and the roles various institutions can play are critical to statewide health care reform.

6.

Profiles of Different Types of Linkage Programs

Family Health Center

Address 360 East 193 Street, Bronx, New York 10467

Interviewee Bob Massad, M.D.
Chairman, Family Medicine Program
Montefiore Hospital Project
and Executive Director, Family Health Center

*Background
Information*

- Location: The health care center is located in an urban area.
- Date Linkage Established: The linkage with the Montefiore Hospital Project was established in 1980.
- Patient Volume: 60,000 visits per year.
- Patient Mix: 90 percent African American and Hispanic; 5 percent Southeast Asian; and 5 percent Other.
- Services Provided: Full range of primary care.
- Training Residents, Students, or Both: Both.
- Types of Providers Trained at the Center: Family practice physicians, nurse practitioners, and physician assistants.

*Reasons for
Establishing
the Linkage*

The community health center was established by the medical center. This is because the medical center wanted to ensure that the school was training residents in community medicine and to improve access to health care services for the local community.

It was always the intent of the medical center and the health center's medical director to conduct training at the health center. Consequently, the linkage was initiated with the establishment of the health center.

*Major Steps in the
Linkage Negotiation*

The medical center organized a community advisory board for the health center to assist in the center's creation. It included representatives from a local community improvement association and a locally prominent clergy association. The role of the advisory board was to educate different community groups about the role of the health center and to consolidate their support.

Individuals and groups involved in establishing the health center and the linkage included the Bureau of Primary Health Care (BPHC), the community advisory board, and representatives from the medical center. The BPHC, formerly the Bureau of Health Care Delivery and Assistance, provided much

of the funding needed to rehabilitate the building where the health center would be located.

Individuals from the medical center involved in the linkage included both its president and vice president of planning. The president ensured institutional support for the linkage, and the vice president of planning assisted in the grant application process for the community health center.

*Barriers to
Establishing the
Linkage*

The one notable barrier the medical center and the health center encountered was faculty resistance. Although the entire faculty shared the goal of training residents to serve underserved populations, some resisted training them at a community-based site. For these faculty, this approach represented a disturbing departure from more conventional, institutionally based training. Their concerns were assuaged through continuous communications from the health center's medical director, the medical center's president, and various faculty supportive of the linkage.

*Financing
the Linkage*

Because the health center and linkage were established at the same time, it is difficult to separate out the costs of the linkage. The estimated cost of renovating the building to house the health center and equipping it for teaching was \$1.3 million. This figure included adding extra space and equipment for teaching, such as video cameras.

Most of the costs of converting the building were covered by a grant from the Bureau of Primary Health Care. The training costs were covered by a grant from the Bureau of Health Professions and funds from the medical center.

Currently, support for the program comes from graduate medical education funds received by the medical center, federal Section 330 grants, the medical center, and patient revenues. Residents treat patients and generate patient revenue. Although a resident's productivity is about half that of an attending physician's, this may not represent a loss if the health center is unable to fill the attending physician position.

The linkage has had no noticeable impact on the center's financial status.

*Administration
of the Linkage*

The medical center's residency program and the health center formed a management team that is responsible for overseeing the operation of the linkage. The team is composed of the residency director, the health center's medical director, and the health center's administrator. Tasks are shared equally among the team members, though ultimate responsibility for most aspects of the linkage's operations lies with the center's medical director.

*Preserving the Service
Mission in a Teaching
Environment*

Preserving the center's service mission in a teaching environment has not been a problem. This is due largely to the medical center's focus on preparing physicians for serving the underserved and addressing the unmet need for health care that exists in the community. Students and residents in the program are required to participate in community projects that integrate education and service.

*Maintaining a Supply
of Students and
Residents at
the Center*

The health center has been able to maintain a consistent supply of students and residents because of the medical center's focus on community education and service and because of specific recruiting efforts by the medical center and the health center. Both the medical center and the health center actively try to recruit students who express a commitment and interest in community service. To recruit interested students, the medical center will send representatives to annual meetings of the American Medical Student Association or to schools with predominantly minority populations.

Greater Lawrence Family Health Center

Address

150 Park Street, Lawrence, Massachusetts 01841

Interviewee

Scott Early, M.D.
Residency Director

*Background
Information*

- Location : The health center is located in an urban area.
- Date Linkage Established: The health center signed an affiliation agreement with Tufts University School of Medicine and Lawrence General Hospital in August 1992. It will begin training residents in July 1994. The residency training program is unique because Greater Lawrence, not the medical center, is the accredited teaching institution.
- Patient Volume: 42,000 visits per year.
- Patient Mix: 75 percent Latino; 15 percent Caucasian; 5 percent African American; and 5 percent Other.
- Services Provided: Full range of primary care, obstetrical services, nutritional counseling, social services, and substance abuse counseling.
- Training Residents, Students, or Both: Both.
- Types of Providers Trained at the Center: Family practice physicians.

*Reasons for
Establishing
the Linkage*

For years the health center and Lawrence General Hospital recognized the need for more primary care services in the region. They wanted to attract and retain providers who are willing to treat underserved populations.

In 1989 the health center first suggested the linkage to Lawrence General Hospital. The suggestion was made partly in response to an inquiry by the hospital of how it could better support the health center's role in responding to the health care needs of the community.

*Major Steps in the
Linkage Negotiation*

The driving force in establishing the linkage was the health center's medical director. He made many of the initial contacts with the medical schools and was responsible for outlining many of the details of the linkage. Other individuals involved included the executive director of the health center, the president of Lawrence General Hospital, and the chair of the division of family medicine at Tufts University School of Medicine, who represented the school's dean in the negotiations.

Once the hospital agreed to the linkage idea and agreed to support the health center as the accredited teaching institution, the health center spent the next

year conducting a feasibility study. After the program was deemed feasible, the health center submitted an application for a teaching accreditation in August 1992 and was accredited in January 1993. The health center will begin training residents in July 1994.

Another major step for the health center was finding an academic medical school with which to affiliate. Although the health center would operate as an independent residency program, the health center recognized the need to affiliate with an organization that could lend it both credibility and technical support. The health center also wanted to affiliate with a medical school whose students demonstrated the greatest interest in and need for community-based training. The health center decided to affiliate with Tufts University School of Medicine.

*Barriers to
Establishing the
Linkage*

The health center has confronted several barriers to establishing the training program. One barrier is a lack of resources to create and support the residency program. As a community health center, Greater Lawrence lacks the financial resources to underwrite capital expenditures and to secure bank loans. As a community-based facility, Greater Lawrence is not eligible for graduate medical education reimbursement from Medicare. It currently is considering ways to tap into Medicare graduate medical education dollars.

Another barrier is the lack of medical students entering primary care residency programs. As a new program, Greater Lawrence worries about the impact of this national shortage on its ability to recruit students. However, once its program becomes better known, Greater Lawrence believes recruiting will become less of a concern.

*Financing
the Linkage*

Items included in the training program's startup costs and associated dollar amounts are listed in the table below. Staff salaries are based on estimates of how much time each individual would devote to establishing the training program.

Estimated Startup Cost of Training Program

<i>Item</i>	<i>Cost</i>
Staff Salaries	
Residency director	\$ 100,000 (over 1.5 years)
Medical director	40,000 (over 2.5 years)
Executive director	25,000 (over 3 years)
Residency coordinator	25,000 (over 9 months)
Center physician	20,000 (over 2 years?)
Secretary	15,000 (over 3 years)
Financial officer	12,000 (over 2 years)
New Building*	4,300,000
Office Supplies (telephone calls, printing, postage, and equipment)	20,000
Meetings	20,000
Total	\$4,577,000

NOTE: * This figure represents the entire cost of the building, not just the cost of the training component.

These costs have been borne by the health center, which has paid the entire salary of each staff member committed to establishing the training program, and by a \$30,000 appropriation from the Massachusetts Area Health Education Center. The health center also has relied on financial loans. Tufts University School of Medicine has not been required to contribute any dollars. After meeting these initial financing costs, Greater Lawrence primarily will use third-party reimbursement to help finance the training program.

Given that the program does not begin training residents until July 1994, it is too early to assess the teaching program's financial impact on the health center's financial status. However, Greater Lawrence has estimated that it will lose money for the first four years of the program and, accordingly, it has made the necessary arrangements with Lawrence General Hospital. The hospital pays half of the residency director's salary, provides the current building rent free to the health center, and leases the land on which the building sits to the health center for \$1 per year. It also has loaned the health center \$150,000 to finance expenditures and guarantee bank loans.

*Administration
of the Linkage*

Because the residency program is based at the health center, Greater Lawrence is responsible for performing all administrative tasks. This includes marketing and recruiting, evaluating residents, establishing the curriculum, and managing the financing of the program.

*Preserving the Service
Mission in a Teaching
Environment*

To preserve Greater Lawrence's service mission in its teaching environment, the health center's board of directors amended the health center's mission statement to include education as part of its service mission. The health center will make the teaching as service-oriented as possible.

*Maintaining a Supply
of Students and
Residents at
the Center*

Greater Lawrence has instituted a major marketing campaign to attract students to its residency program. It mailed more than 1,000 brochures to medical schools throughout the nation. The brochures outline the advantages of training at Greater Lawrence, especially for students seeking a career in primary care. Once students come to Lawrence and realize its advantages, it will become increasingly easier to attract more students.

Greater Lawrence identified a number of advantages to having the health center function as the accredited residency training program. One advantage is the greater amount of control afforded the health center regarding its mission to serve the underserved in a community-based setting. The health center is not impeded by a medical center's training agenda, which might differ from the health center's teaching agenda. Moreover, operating as the accredited institution adds greater stability to the health center's training functions. A health center affiliated with an accredited medical school is always vulnerable to that medical school pulling out of the linkage. Last, operating as the accredited institution helps recruit students who are interested in serving the underserved. Students will appreciate the opportunity to train in an organization that is entirely community-based and focused on the needs of the underserved.

Lincoln County Primary Care Center

Address 7400 Lynn Avenue, Hamlin, West Virginia 25523

Interviewee Gerry Stover
Medical Director

*Background
Information*

- Location: The center is located in a rural area.
- Date Linkage Established: The linkage with the Marshall Medical School was established in 1978.
- Patient Volume: 30,000 to 33,000 visits per year.
- Patient Mix: 99 percent Caucasian.
- Services Provided: Full range of primary care, with an emphasis on family practice and including obstetrics, cardiology, urology, general surgery, and pediatrics.
- Training Residents, Students, or Both: First-year medical students to third-year medical residents.
- Types of Providers Trained at the Center: Medical doctors, nurse practitioners, licensed practical nurses, and registered nurses, though the majority are medical doctors.

*Reasons for
Establishing
the Linkage*

During the 1970s, providers were leaving Hamlin to practice in more lucrative markets and those who were staying would be retiring soon. The Lincoln Primary Care Center was opened to increase access to health care services among the region's underserved populations.

Because the area was experiencing provider shortages, even after the establishment of the community health center, the idea of forming a linkage between the center and the local medical school was discussed as a way to increase the physician supply for the center as well as the state. A linkage between the Lincoln Primary Care Center and Marshall Medical School was seen as mutually beneficial and as consistent with Marshall's chartered missions of meeting the local community's medical needs and providing training sites for the teaching of epidemiology and community medicine.

*Major Steps in the
Linkage Negotiation*

It was the medical school that first contacted the community health center about an affiliation. However, the linkage was fully supported and discussed by both the medical school and the community health center well before an official decision was made.

Many individuals and groups were involved in establishing the linkage. Among them was the center's community advisory board that included center staff, consumers, health professionals, local business community members, and educators. In addition, the director of the community health center and representatives from the medical school, including the chairman of the department of surgery, chairman of the department of family practice, and associate dean of the medical school, were very involved in forming the partnership.

The community advisory board played a valuable role in allaying community fears that the quality of care provided by the center would suffer as a result of employing residents. The board also allowed the medical center director to spend time teaching university residents in community medicine prior to the official establishment of the linkage. His presence at the medical school and his interaction with the faculty and administrators facilitated some of the initial contacts for the linkage.

The associate dean of the medical school was responsible for overseeing the medical school's involvement in the linkage and for ensuring its continued commitment. The chairs of the two departments played a more direct role, working with the community health center and the community advisory board on a regular basis to establish the operating rules and guidelines of the linkage.

The Lincoln Primary Care Center identified two major steps that were critical in negotiating a successful linkage. The first step was securing community support for the linkage in order to ensure steady clientele. The second major step was to resolve issues related to reimbursement for physician teaching time and resident salaries.

*Barriers to
Establishing the
Linkage*

Because the health center was one of the most visible and relied upon providers of health care in the community, people expressed concerns about the continuity of care and the potential risk presented by students and residents learning and providing care at the center. The center's advisory board was successful in garnering community support.

*Financing
the Linkage*

Lincoln's initial startup costs for the linkage included minor remodeling to the facility to provide more room for training and donating the health center director's salary for teaching time at the medical school. This resulted in a loss in patient revenue generated by the center.

The center financed the initial costs of the linkage largely through patient revenues and in-kind contributions, with the medical school donating faculty to teach at the center in exchange for the services of the center's medical director at the medical school. In addition, the university's residency program agreed to cover residents' salaries. The center had applied for several foundation grants but was not awarded any funds.

All health care services are reimbursed on a fee-for-service basis. The center continues to finance the linkage through patient revenues and through research grants, including grants from the American Cancer Society and the National Institutes for Health. The grants actually are awarded to the medical school, which then forwards some of the funds to the center to subsidize operational costs and conduct research. This arrangement is necessary because the center is not a federally qualified health center. It operates as a Section 501 (c)(3) institution and therefore is not entitled to federal dollars. The center also relies upon volunteers from the medical school and other groups to work at the center.

Good management and efficient coordination among the center, the medical school, and the community have made the linkage affordable. Because of

efficient operations, patient revenues, and research grants, the cost of the linkage to the center has been negligible.

*Administration
of the Linkage*

The administrative tasks involved in maintaining the linkage include grant solicitation and management from the university. The residency program ultimately is responsible for the training of students and residents at the health center, and it regularly surveys students and residents regarding the quality and utility of their training. The center's medical director and another center physician are responsible for the day-to-day operations of the training program and for supervising the residents. They conduct performance reviews of the students and residents.

*Preserving the Service
Mission in a Teaching
Environment*

To ensure that the demands of teaching students and residents do not compromise the center's service mission, Lincoln adheres to several principles in operating the linkage. First, the center respects patients' rights at all times by informing them of the teaching role of the center and asking their permission to include the education of students and residents as part of their treatment. The patient may choose not to be treated by a student or resident. Second, the center has always made it clear to the medical school that its first priority is service. Also, the center recognizes that its teaching environment and methods will differ from that of the medical school and has prepared both the center staff and medical school staff to accept these differences. The center also ensures that the teaching is very service-oriented, so there is minimal effect on its service responsibilities.

*Maintaining a Supply
of Students and
Residents at
the Center*

Lincoln's ability to maintain a consistent supply of students and residents is aided by a requirement at the affiliated medical school that students and residents spend a certain amount of time in community-based training. West Virginia soon will be adopting similar requirements statewide, which will ensure that centers such as Lincoln provide an attractive working environment marked by quality training, strong community and preceptor support, and a diverse and challenging training schedule.

Sequoia Community Health Foundation

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Interviewee

Jaime Cruz, M.D.

Medical Director for Ventura Huerta Health Care Center (teaching site)
and Residency Director for Sequoia Community Health Foundation

*Background
Information*

- **Location:** The health center is located in an area that originally was rural but recently has experienced significant population growth. Therefore, the center currently serves both rural communities and newly urbanized communities.
- **Date Linkage Established:** The linkage with the Valley Community Medical Center and the University of California at San Francisco (UCSF) School of Medicine was established in 1990.
- **Patient Volume:** 70,000 visits per year.

- Patient Mix: 90 percent Hispanic, 5 percent African American, and 5 percent Caucasian.
- Services Provided: Full range of primary care services, prenatal and obstetrical services, newborn care, cancer screening (colon screens, mammographies, pap smears, and colposcopies), minor surgery (small skin tumors and cervical malignancy removals), and health education services.
- Training Students, Residents, or Both: UCSF students in their fourth year and Valley Medical Center residents in all three years.
- Types of Providers Trained at the Center: Family practitioners, physician assistants, and nurse practitioners.

Reasons for Establishing the Linkage

The linkage was established because of a mutual interest by the health center and the medical school to increase access to primary care services in the community. The health center wanted a long-term strategy for recruiting and retaining providers at the center, and the medical school wanted to strengthen its commitment to primary care education.

Major Steps in the Linkage Negotiation

Establishment of the linkage occurred over several years as different representatives from the health center and the medical school discussed the need to increase access to primary care in their community. The major players involved in initiating the linkage included the executive director of the health center, the director of the family practice residency program at Valley Medical Center, and the associate dean of the medical education program at UCSF. Also involved were the Fresno County Board of Supervisors and the executive director of the California Area Health Education Center (AHEC).

The executive director of the health center and the director of the family practice residency program at Valley Medical Center played the largest role in establishing the linkage by negotiating governance guidelines for the program, determining financial responsibility, and developing the ground rules for selecting and supervising the students and residents. Given that the hospital is county-operated and county-financed, the county board of supervisors had ultimate responsibility for authorizing any financial commitment on behalf of the hospital. The California AHEC also provided financial support for the teaching services.

Because the idea and development of the linkage evolved over a number of years, it is difficult to identify specific steps in the linkage negotiation process. However, the health center believes two steps were key to the negotiation. One step was deciding who would be financially responsible for the different components of the linkage. A second step was assigning responsibility for developing the specifics of the linkage program, such as what the teaching curriculum at the health center would be, how many residents would be trained, and who would supervise them.

Barriers to Establishing the Linkage

The health center identified several barriers to establishing the linkage. One barrier was finding a way to finance the cost of the training at the health center. Because Medicare does not provide direct reimbursement to health centers for the cost of training, other financing sources had to be identified.

*Financing
the Linkage*

Another barrier was designating physicians to do the training. The health center wanted to use staff physicians at the center to do the training, but the medical school believed that its physicians should do the training. The county, in operating the hospital, also was hesitant to allow residents to go to the health center for training because it thought that the linkage would take both patients and revenue away from the hospital. The county suggested that the health center be required to send all patients needing inpatient obstetrical care to the county hospital, enabling the hospital to take advantage of obstetrical care's high reimbursement rates and short lengths of stay. The recommendation eventually was withdrawn.

A final barrier to establishing the linkage was the lack of a reliable referral system between the health center and the hospital. Many of the health center's patients were accustomed to accessing the hospital through the hospital's emergency room. To create a teaching environment and referral system sensitive to patient needs, a better referral relationship with the hospital needed to be established.

To establish consensus among the players, an executive committee was formed. The executive committee, composed of the health center's executive director, the county commissioner, the AHEC director, and the associate dean of medical education at UCSF, negotiated the major financing and governance issues of the linkage. An operations committee also was established to implement the decisions of the executive committee. The operations committee consisted of the health center's executive director and faculty from the county hospital's residency program.

Items included in the center's initial startup costs for the linkage included adding eight additional exam rooms and the necessary equipment. In addition, more professional and support staff were hired.

To finance the linkage, the health center used several funding sources, including the California AHEC, a three-year grant from the Bureau of Health Professions, and money from the county to pay for residents' salaries. By agreement, the county paid for the entire portion of the residents' salaries during their first year, 30 percent during their second year, and 40 percent during each year thereafter. The health center pays the rest. The health center also submitted applications to foundations but was not successful in securing grants. UCSF did not provide any direct financial support. The health center also hoped that residents would generate revenues through patient care, but to date this has not been the case.

After the three-year grant from the Bureau of Health Professions expires, the health center will continue to rely on AHEC funds. It also hopes to save money as the need for recruitment and advertising decreases with the growing notoriety of the program.

The linkage has lost money in its first three years, and the health center currently is breaking even. The health center hopes to recapture some of those lost dollars through greater reliance on managed care and continued improve-

ment in the efficiency of the teaching and overall operations of the health center.

*Administration
of the Linkage*

A majority of the administrative tasks are shared between the residency program at the county hospital and the health center. The medical director of the health center is responsible for recruiting residents to the health center and for everything that influences residents at the center, including developing the curriculum, establishing training schedules, and hiring new preceptors. The director of the residency program is responsible for all aspects of the linkage internal to the county hospital. Both the center's medical director and the director of the residency program are responsible for assessing the quality and success of the training program through resident evaluations.

*Preserving the Service
Mission in a Teaching
Environment*

By incorporating a significant amount of patient care into the training of residents, the health center has been able to preserve its service mission in a teaching environment.

*Maintaining a Supply
of Students and
Residents at
the Center*

In recruiting residents, the health center has made it a point to target students who have demonstrated a commitment to serving underserved populations. Because a majority of these residents are minorities, the health center has specifically targeted these students.

7.

Conclusions

Building the system's capacity to provide access to high-quality, comprehensive, case managed care for medically underserved, indigent populations is critical to the success of health care reform at all levels of government. Integral to meeting this challenge is recruiting and retaining health care providers in medically underserved communities. Universal coverage alone will not ensure the availability of services and providers in the neediest locations. Similarly, merely increasing the supply of providers or even the supply of primary care providers will not ensure that an adequate number of such providers will be attracted to the nation's medically underserved areas.

Education linkages between community and migrant health centers and academic health professions training and residency programs offer a number of benefits, including:

- increasing the supply of primary care providers in underserved areas;
- ensuring greater coordination within the delivery system;
- improving access to community-based training for residents and students;
- providing a real opportunity to develop team-oriented training; and
- enhancing access to new technology.

Yet establishing a linkage is not a risk-free endeavor. There are numerous obstacles that must be carefully examined and overcome before a successful linkage can be implemented. Of primary concern is generating enough interest on the part of medical and other health professional students to be trained in a community-based setting. Early exposure to community-based primary care is key to generating this interest. Even more important is for all linkage partners to be clear on their goals and on what they want residents and students to learn from these community-based experiences. Continual reinforcement of these goals is critical. Increased financial and operational costs to both C/MHCs and health professions education programs are another factor that must be carefully weighed. In addition, the expanded personnel and space requirements and increased administrative duties must be considered. Baseline information on the teaching costs associated with the various training components must be realistic in order to establish a viable community-based training program.

Once all the incentives and barriers have been weighed and the decision to implement a linkage has been made, the negotiation process can begin. In a successful negotiation, all potential linkage partners must benefit without sacrificing their integrity or perceived responsibilities. Each partner must identify its goals relative to the affiliation and the strengths it brings to the linkage. It is equally important to be aware of what the other entities involved in the discussion hope to gain. In this way,

concessions that are not detrimental to any partner can be made. Only by identifying areas of common ground and/or mutual benefit can a workable linkage program be crafted.

As health care reform continues to evolve at both the state and national levels, there are a number of approaches that could be used in conjunction with linkage programs to encourage the delivery of primary care in community-based settings. At the same time, these strategies will help promote linkage sustainability. Potential actions include the following.

- Providing community-based entities with designated dollars specifically earmarked for primary care training purposes. Academic institutions and hospitals would then negotiate directly with community-based facilities to develop primary care training programs.
- Requiring community-based training for all students and/or residents choosing to practice primary care and/or paying for their training with public funds.
- Forming consortia among academic institutions, hospitals, and community-based organizations.
- Equalizing the ratio of primary care generalists to specialty positions in all approved medical training programs and specifying targets by geographic area.
- Evening up the per residency amounts paid (e.g., through GME funds) across facilities.
- Redirecting Medicare's per resident payments so that a portion of these funds can be provided directly to community-based ambulatory care settings.
- Fully funding the National Health Service Corps so that physicians, nurses, dentists, and other health professionals can be placed where they are needed the most, primarily in medically underserved communities.

Shortfalls in state Medicaid budgets and other state and local financial constraints pose real challenges to the establishment of primary care community-based linkages. Another issue is how do potential linkage partners communicate the importance of establishing the linkage to the right people at the right time so change can happen. Still another issue is how should primary care be defined and what types of providers should be included in this definition? Regardless of these challenges, now is the time to take advantage of the opportunity to create coalitions, alliances, and linkages to extend access to primary care. Ultimately, the creation of service education linkages between community-based providers and health professions education programs should be fostered with or without health care reform. It is an approach that has proven effective in alleviating provider shortages in medically underserved areas and in helping reduce health care costs. Primary care community-based linkages are a "low-tech, high-touch" approach that works.

Endnotes

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35. Joel C. Cantor, Laurence C. Baker, and Robert G. Hughes, "Preparedness for Practice: Young Physicians' Views of Their Professional Education," *Journal of the American Medical Association*, vol. 270, no. 9, September 1, 1993, pp. 1,035-40.
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Appendix: Forum Agenda and Participants

C/MHCs and Health Professions Education Collaborative Opportunities Forum Agenda

Date: October 14, 1993

Time: 9:00 a.m. - 4:30 p.m.

Place: Hall of the States, 444 North Capitol Street, Room 283, Washington, D.C.

Panel 1: Introduction and a National Perspective

Marilyn Gaston, M.D., Bureau of Primary Health Care

Fitzhugh Mullan, M.D., Bureau of Health Professions

Barbara Wynn, Health Care Financing Administration

Ripley Forbes, House Subcommittee on Health and the Environment

Panel 2: C/MHC and Health Professions Education Collaborations

Barriers and Consensus Building

Chris Shea, Executive Director

Blackstone Valley Community Health Care, Pawtucket, Rhode Island

Financing

Scott Early, M.D.

Lawrence Family Practice Residency, Greater Lawrence Family Health Center,
Lawrence, Massachusetts

Other Health Professions

Patricia Meservey, Project Director

Center for Community Health Education, Research, and Service

W. K. Kellogg Foundation, Community Partnership Program, Boston, Massachusetts

Tracking of Primary Care Residents and/or Collaborative Training Program

Bob Massad, M.D., Chairman

Family Medicine Program

Montefiore Hospital Project, Bronx, New York

Panel 3: Other Perspectives on Health Professional Training Programs and Community-Based Providers

Student Perspective

Maria Castro, M.D.

Family Medical Centers, Temperance, Michigan

Organized Medicine

Norman Kahn, M.D.

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W. Donald Weston, M.D., Vice Chancellor of Health Sciences

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Ciro Sumaya, M.D., Project Director

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University of Texas Health Sciences, San Antonio, Texas

Closing Remarks

Paul Wright, Director

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Bruce Behringer, Past President

National Rural Health Association

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Community and Migrant Health Center and Health Professions Education Collaborative Opportunities Forum

October 14, 1993

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